

# Enriched learning environments

**EDCompass** newsletter

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## Tailoring tactics and technology to meet the needs of all students

By Heather Ellwood

American poet Oliver Wendell Holmes once said, "The great thing in this world is not so much where you stand, as in what direction you are moving." Holmes may not have been referring specifically to education, but his words certainly apply. Education is about movement, metaphorically speaking, not about standing still. Students seem to learn best under circumstances that are not static, but fluid; in classrooms that are not stagnant, but energized; facilitated by leaders who know when to step back and let the learners show the way.

Easy to say. Harder to do.

That's why SMART has established the SMART Learning Environments research project with SMART Exemplary Educators from five of our SMART Showcase Schools. We want to understand how teachers and learners are working together to create the alchemic mix that makes a classroom a place of fluidity, energy and movement. The participating teachers have been given a variety of SMART products to help them get going, such as the SMART Board™ interactive whiteboard, the AirLiner™ wireless slate, the SMART Document Camera, SMART Response, SMART Audio and SMART Notebook SE (Student Edition) software.

SMART's goal is to share the knowledge, observations and best practices we discover with other educators. Amidst much excitement as the project began in March, we talked with three of the participating teachers to find out how they create enriched learning environments.

### Start with a solid plan

Kathleen Moylan, a history teacher at Worcester Technical High School in Worcester, Massachusetts, is one of the five teachers involved in the project. She and her peers are exploring how SMART products can help transform classrooms. They are then blogging, creating videos and posting about their ongoing discoveries on the [SMART Learning Environments blog](#) and on a forum on the [SMART Exchange](#).

Moylan is particularly interested in how to make "what my students think are dusty old history documents come alive." She finds she can do this best by infusing each of her content units with choice. She explains, "I give my students an opportunity to choose the types of assignments and projects they do when we tackle the content – most often they take on a project that keys into their learning style. We use SMART products to facilitate these assignments."

But giving students that choice doesn't happen by chance. Choice, says Amy Barrieau, a sixth-grade French immersion teacher in Harkins Middle School in Miramichi, New Brunswick, starts with thorough planning. Every lesson plan, she explains, takes into account all the learning styles of her students. As she crafts her lessons in SMART Notebook software, she continually asks herself, "Am I hitting my linguistic learners, my musical learners, my kinesthetic learners?" SMART products, she asserts, allow her to add activities that tap into those different learning styles.

Like Barrieau, Jill Lyttle plans her lessons around SMART products. This eighth-grade math teacher from Kenmore Middle School, a public school in Arlington, Virginia, explains how she creates activities specifically to make the most of what these products have to offer.



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#### Kathleen Moylan

SMART Exemplary Educator and  
History Teacher  
Worcester Technical High School  
Worcester, Massachusetts



"I can't imagine teaching without a SMART Board interactive whiteboard and all the other tools that go along with it. Through careful planning around using technology in my classes, I find it so much easier to be creative by making sure I have an active lesson." Lyttle works hard to make her classroom a place for active learning. Whether she is taking advantage of SMART Notebook software's spinner, dice and timer in probability lessons, or having students use the SMART Document Camera to show how they measure angles with a protractor, Lyttle ensures that creativity is an integral part of her teaching approach.

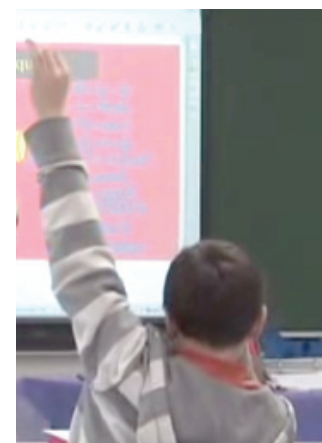
### Be ready to shift gears

Though thoughtful planning is central to creating dynamic learning environments, Moylan, Barrieau and Lyttle also strive to capture the teachable moments in their classrooms, no matter whether they are working with the whole class, small groups or individuals. Lesson design and teacher preparedness, coupled with available classroom technology, can encourage movement and fluidity. The key, says Moylan, is seizing the unplanned opportunities for learning that present themselves, changing tactics if necessary and incorporating student feedback into every aspect of the lesson.

"There has to be fleetness in a classroom, regardless of what I'm teaching. Learning is just naturally that way because students have questions that I may not have anticipated. With technology, I can respond in a way that's in real time," explains Moylan.

That fleetness came in especially handy when Moylan's freshmen were studying the emerging role of the president in U.S. history. The unit coincided with the inauguration of President Obama, and some students wondered how the position he was about to assume differed from those presidents of the past. Using the Sympodium™ interactive pen display, Moylan and her students found information on government websites, projected these documents on the screen and conducted a spontaneous comparison and analysis.

Barrieau uses the SMART Board interactive whiteboard as a way to hook students and help them take charge of learning, especially during small-group or individual learning activities. For example, she finds that students sometimes get distracted when they are working on vocabulary assignments in her French-language science class. "If I notice one of my students getting antsy, I ask them to come up to the SMART Board and draw or demonstrate what they are doing in their group." That way, she explains, all the attention stays focused on the task at hand. Not only does this give students' ideas agency and weight, it often leads to in-depth synthesis and further steers student-led exploration, helping Barrieau to quickly determine if everyone is on the same page.



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Eighth-Grade Math Teacher  
Kenmore Middle School  
Arlington, Virginia



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**Amy Barrieau**

SMART Exemplary Educator  
and Sixth-Grade French  
Immersion Teacher  
Harkins Middle School  
Miramichi, New Brunswick



### Bring fluidity to the classroom

Each teacher has countless examples of their students moving from whole-class learning, to small-group interactions, to individual work – over the course of a lesson, a day or a unit of study. That movement, they assert, keeps their teaching lively and their students engaged.

Lyttle often follows the classic math instructional approach – she begins with a teacher-led explanation of a new concept, moves to helping students practice that concept and ends with an assignment. What has shifted, Lyttle explains, is the way technology opens up this structure.

In a recent lesson on square roots, Lyttle demonstrated the principle on the SMART Board interactive whiteboard using cube graphics, making sure various students came up to the board to participate. Then, working with colorful plastic cubes in small table groups, her students built perfect squares with many different cube combinations. In turn, each small group came to the front of the class and displayed their perfect square creations using the SMART Document Camera, explaining the reasoning behind the number of cubes they chose and the principle being demonstrated. Lyttle says that by making the practice hands-on and involving each group in explaining their solutions, the learning becomes deeper.

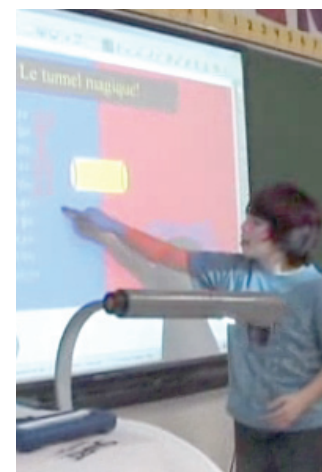
"I find using this approach keeps my students engaged. They feel like they are part of the lesson, not like they're being talked to. Not only do I feel all of my students are winning, I feel more successful. I know I'm accurately assessing my students' understanding of the material," she says.

Structuring an entire unit of study around different learning environments means Moylan does more preparation up-front, but she believes it pays huge dividends. Because she creates opportunities for her learners to facilitate their own study of U.S. history, they take ownership of the content.

For example, during a recent study of the Trail of Tears, Moylan downloaded and printed copies of various historical documents from that time period. After a brief teacher-led presentation about the era using the Sympodium interactive pen display, she divided her students into groups of four and gave each group a different document to analyze. While Moylan monitored and helped facilitate the group work, her students read the documents, underlined the parts they felt were most important and synthesized them. They then pulled that synthesis together in a letter that began "Dear Confused History Student" and went on to explain the most important aspects of their document.

"My favorite days are when someone, particularly an administrator, pops into the room and can't find me right away. That means I'm not up at the front of the class, that maybe one of my students is, or maybe a whole group of them. I really think kids need to discover the content for themselves. That can be scary, but that's where the engagement comes in. You're not going to get the same engagement by just lecturing every day," Moylan says.





That engagement was palpable when the student groups presented their letters to the class using the SMART Document Camera. In essence, says Moylan, the students were teaching history to their peers, and that made everyone sit up and take notice.

Next, says Moylan, she will move to a more individualized approach, where students will “create a historical narrative, a monologue or a collage that demonstrates their synthesis of all of these documents we’ve looked at. Now they have to ask how these documents have meaning for them, and how studying them brought that period to life.” Her classroom, Moylan says, is often a noisy and busy place, but it’s a place where content gets digested and understood. The technology helps that happen.

### Keep moving forward

Moylan, Barrieau and Lytle have found that by using a variety of technology products and teaching tactics, they are creating fluid learning environments that work to meet the needs of every learner in their classes. But, harkening back to Oliver Wendell Holmes’s observation, they all say the craft of teaching is one that involves continual exploration and experimentation – not standing still.

The SMART Learning Environments project is all about movement. We want to chronicle that movement by encouraging teachers to share their ideas on enriched and inspired learning environments. Our hope is that the project community evolves into an even larger one, with other teachers taking part in the ongoing discussion by posting their own thoughts and experiences with learning environment explorations. Our five project participants have happily broken the ice and will continue to chat and converse about how they make their classrooms places of fluidity. We invite you to check out how the project progresses at [our blog](#) and on the [SMART Exchange](#) and then join the conversation. **EC**

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